

Distribution Resources Plan

Data Access Workshop

May 23, 2016



Items to Cover

- Data needed by Utilities to achieve DRP Goals
 - Data for Distribution Planning
 - Data for DER Procurement
 - Data for Distribution Operations
- Data types Utilities Propose to Share

Objectives of the DRP



Modernize distribution system to accommodate expected DER growth through two-way power flow



Enable customer choice of new electric DER technologies and services



Identify and develop opportunities for DERs to provide grid benefits

Identify Optimal Locations for Deployment of DERs

Joint IOU Data Access Principles

- Support facilitating mutual data access between third parties and utilities to promote customer choice and integration of DERs into planning, operations and investments
- Provide actionable data that supports intended use cases for furthering DRP goals
- Maintain appropriate levels of protection on customer privacy and confidential information (e.g., market-sensitive, proprietary, intellectual property, physical, cyber or security sensitive)

IOU Responses to Ruling Questions

Question 1

- IOUs do not propose modifications to their Data Access information in their respective DRPs

Question 2

- Identify use cases for sharing actionable data that can advance the goals of the DRP

Question 3

- Separate Data Access Working group not needed.
- Address data access issues pursuant to use cases in ICA/LNBA/Competitive Solicitation Framework working groups and Grid Modernization workshops

Data Needed by Utilities to Achieve DRP Goals

Integrated Distribution Planning Framework

Distribution Resources Plan (DRP)

Integrated DER (IDER)

1

Assumptions, Scenarios & Scope

Develop forecasts, assumptions and planning scenarios.

2

Distribution Planning Assessment

Distribution Grid Studies

- Thermal
- Voltage
- Protection
- Safety and Reliability

3

Distribution Grid Needs

Distribution Grid Needs

- Load Serving Capacity
- DER Hosting Capacity
- DER Aggregator Requirements
- Coordination with Transmission Planning

4

Evaluate Options

Prioritize Grid Needs

Deferral framework Analysis (technical feasibility and indicative cost screens)

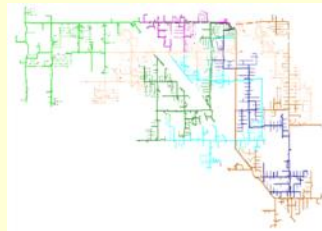
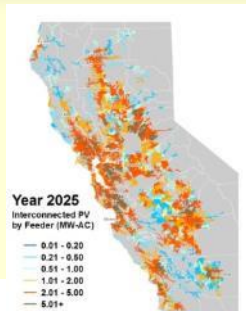
Implement "wires" solutions for locations deemed infeasible for DERs

5

Sourcing

Sourcing Process to satisfy needs identified in IDPP

Implement "Wires" Solution



Integrated Distribution Planning Framework

Distribution Resources Plan (DRP)

Integrated DER (IDER)

1

Assumptions,
Scenarios &
Scope

Develop forecasts,
assumptions and
planning scenarios.

Planning

Distribution
Planning
Assessment

Distribution Grid Studies

- Thermal
- Voltage
- Protection
- Safety and Reliability

3

Distribution
Grid Needs

Distribution Grid Needs

- Load Serving Capacity
- DER Hosting Capacity
- DER Aggregator Requirements
- Coordination with Transmission Planning

4 Procurement 5

Evaluate
Options

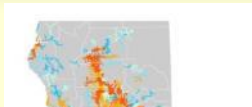
Prioritize Grid Needs

Deferral framework
Analysis (technical
feasibility and indicative
cost screens)

Implement “wires”
solutions for locations
deemed infeasible for
DERs

Sourcing

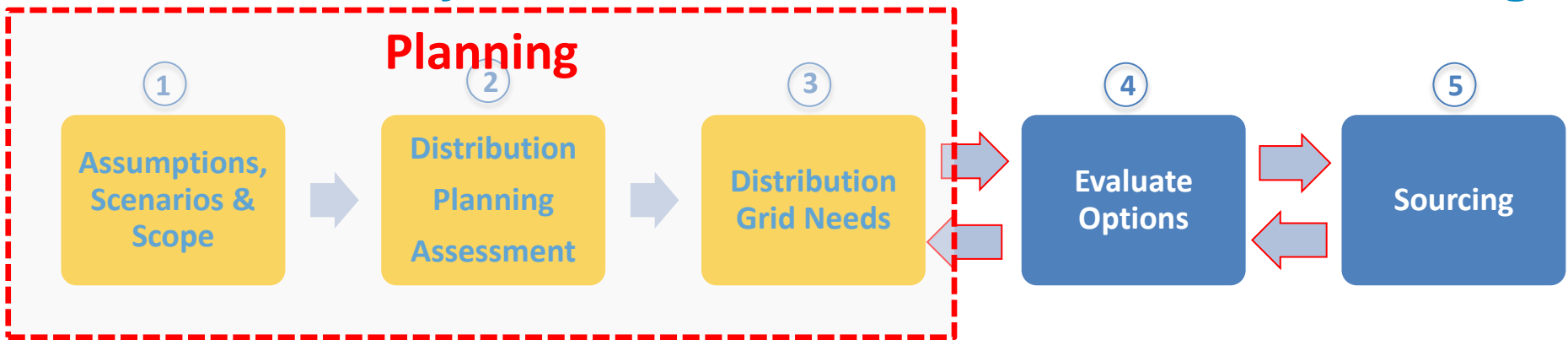
Sourcing Process to
satisfy needs identified
in IDPP



Type of Data that is needed to further the Goals of the DRP:

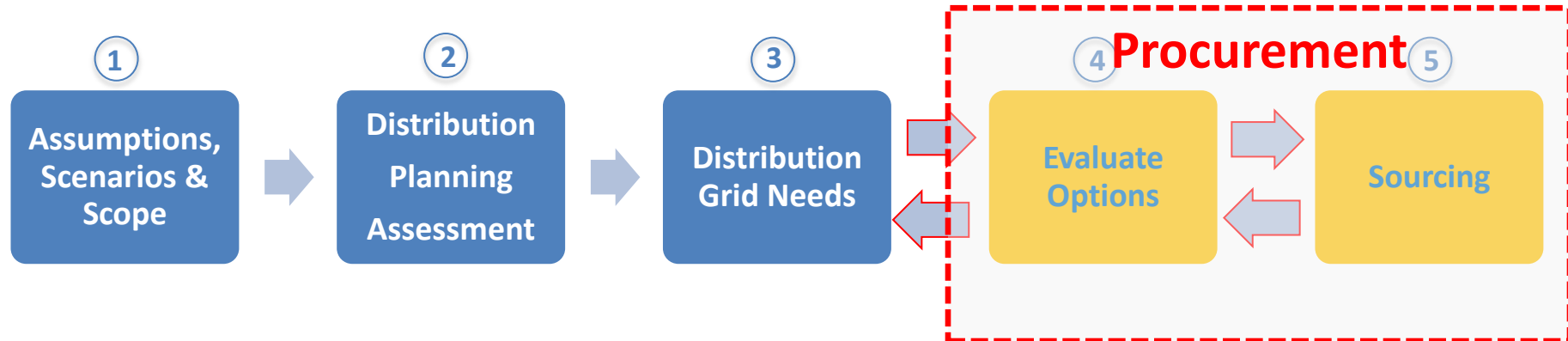
- Planning
- Procurement
- Real Time/Operational

Data Needed by Utilities to Achieve DRP Goals - Planning



- **System Wide DER Forecasts**
- **DER Operational Performance History**
 - Real and Reactive Energy production/ consumption information
 - Voltage and Current
 - Power Factor
- **DER Aggregation Provider Performance and Forecasts**
- **DER Equipment/Portfolio Performance Capabilities**
 - DER hourly profile shapes
- **Future DER Technology Deployments And Associated Capabilities**
- **Other Information Needed For Deferral Framework Analysis**

Data Provided to Utilities in RFOs - Procurement



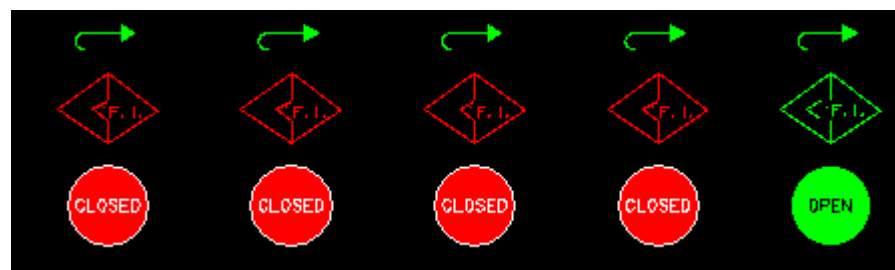
- DER Performance Capabilities and Assurance
 - DER Capacity
 - DER Hourly Profile
 - Control and Communication Capabilities
- Prices for Services Offered
- Commercial Online Date, Technical Data, Bidder Qualifications
- Participation in other Programs or Tariffs
- Bid Information Is Generally Kept Confidential To Protect Bidder's Interests And To Maintain The Sanctity Of The Competitive Process

Data for Furthering DRP Goals – Operational



- DER Real-time energy production/ consumption information
- DER Reactive Power
- Current by Phase
- Voltage by Phase
- Power Factor
- DER Status
- DER Dispatch Signals

SEL1/RTU COMM			NORMAL	BUS					
SEL2/RTU COMM			NORMAL	A PH	+7.06KV	LOAD	48	119	17
SEL3/RTU COMM			NORMAL	C PH	+7.10KV	LOAD	41	116	19
				B PH	+7.06KV	LOAD	50	125	16
SEL1 ERT			NORMAL	WAYS					
SEL2 ERT			NORMAL	A PH	+7.07KV				
SEL3 ERT			NORMAL	C PH	+7.10KV				
				B PH	+7.04KV				



Data Types Utilities Share

Publicly Available Distribution Planning Data

Online Maps

- Geographical mapping of distribution circuits
- Distribution circuit peak loading
- Existing interconnected distributed generation
- Integration Capacity (incremental hosting capacity)

ICA Supporting Data

Public Distributed Generation Queue

DRP - Projected DER Growth

Electric System Reliability Reports

GRC Filing – Future distribution grid investments

Green Button – Customer electric usage



How IOUs Share Data

Ongoing / Online:

- Customer-authorized Share My Data
- Energy Data Request Portal
- Hosting capacity and RAM maps
- Outage maps and other maps

Proceedings:

- Forecasts for IEPR, ERRA, LTPP
- GRC process
- DRP

Periodic Reporting:

- Reliability
- EE and DR programs via CPUC
- Solar: Interconnection, CSI Solar Stats

Procurement: Specific to Individual RFOs

Regulators: As requested with appropriate confidentiality & security protections



Data Types Utilities Propose to Share



Non-Market Sensitive Information

- Geographical map of distribution circuits
- DER Hosting Capacity information
- LNBA Heat Maps to depict optimal locations to site future DERs (highest value LNBA)
- Attributes of distribution services needed to address distribution grid needs in optimal locations
- RFO Process Involves Utilities Providing A Lot Of Information to the Potential Bidders, e.g., via RFO Documents And Bidders Conferences

Market Sensitive Information

- Locational forecasting assumptions
- Application of deferral framework
- Evaluation of DER as alternatives to traditional investments
- Comparative cost of solutions
- Evaluation of DER performance

Data Access Streamlining

- Subject to cost recovery, IOUs to provide web-based platforms, tools and portals for convenient and continuous access
- Web-based tools and portals modeled on similar web-based tools made available to customers, developers and public
- Customer-specific data will be accessible if individual customer provides express prior written consent to disclose data to DER developer
- Consistent with customer privacy, physical security and cyber-security rules and protections